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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,857	06/21/2006	Christophe Martinez	292623US2PCT	8598

22850 7590 10/16/2009  
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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ANDERSON, GUY G

ART UNIT	PAPER NUMBER
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2883

NOTIFICATION DATE	DELIVERY MODE
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10/16/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
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<b>Office Action Summary</b>	<b>Application No.</b> 10/583,857	<b>Applicant(s)</b> MARTINEZ, CHRISTOPHE	
	<b>Examiner</b> Guy G. Anderson	<b>Art Unit</b> 2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 25-48 is/are pending in the application.
- 4a) Of the above claim(s) 27 and 35-48 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 25, 26 and 28-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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## **DETAILED ACTION**

### ***Response to Arguments***

- 1.1 In regards to the rejection under §112 of claim 28, applicant has amended the claim and the rejection is withdrawn.
- 1.2 Applicant's arguments filed 6/26/2009 with respect to the rejection(s) of claim(s) 25-26 under §102, and the rejection of claims 28-34 under §103, have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of US- 6477291 to Ramadas.

### ***Response to Amendment***

#### ***Claim Rejections - 35 USC § 103***

- 2.1 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:  
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
- 2.2 **Claim 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over US- 6477291 to Ramadas in view of US-6097859 to Solgaard.**

**Regarding claim 25**, Ramadas discloses a method and system for in band connectivity for optical switching applications comprising:

Claim 25a) An optical switch configured to be mounted between first optical lines [Fig. 2, #213], each including one or more optical channels having a rank within their optical line [Fig. 2, #207], and one or more second optical lines [Fig. 2, #215], each including one or more optical channels having a rank within their optical line, each of the optical channels being configured to convey a light beam, the optical switch comprising [See also Col. 4, lines 44-67, Col. 5, lines 1-5]: selection means including at least one selection element configured to select a single optical channel from among a set of at least two optical channels of the first optical lines or second optical

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lines and not any other optical channel of the set, the optical channels of the set having a same rank [Fig. 2, #207], and connection means for coupling the selected optical channel to one of the channels of the second optical lines or of the first optical lines respectively, so that the light beam of the selected single optical channel only reaches one of the optical channels of the second optical lines or of the first optical lines. [Fig. 2, #201, 202, 205, 209, 211, 213, 215, 217, 219, Col. 4, lines 44-67, Col. 5, lines 1-5, for discussion of how optical signals are communicated and switched from one input fiber to an output fiber. See also entire disclosure for relevance pertaining to applicants limitations regarding the ranking and selection of signals.]

Ramadas does not specifically disclose:

25b) the selection element including at least one deviation element associated with at least one deflection element configured to assume plural angular positions, the selection of the single optical channel being made according to an angular position of the deflection element.

Solgaard discloses a multi wavelength cross connect optical switch comprising a deflection element [Fig. 1, #18a-c] and associated deviation elements [Fig. 1, #42, 44] as a means to provide improved cross talk rejection.

Further Ramadas teaches that the invention is applied to MEMS based cross connect device. Col. 2, lines 20-35]

Since Ramadas and Solgaard are from the same field of endeavor, the structure of Solgaard would have been recognized as being in the pertinent art of Ramadas.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the structure of Solgaard with the structure of Ramadas in order to achieve improved cross talk rejection.

**Regarding Claim 26**, both Ramadas and Solgaard disclose:

26) The optical switch as claimed in claim 25, wherein it is reversible.

[Ramadas at Fig. 2, and Solgaard at Fig. 1; the system is reversible from input to output and vice versa.]

2.3 **Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over** US-6477291 to Ramadas in view of US-6097859 to Solgaard.

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**Regarding claims 28**, Ramadas does not specifically disclose:

Claim 28 (New): The optical switch as claimed in claim 25, wherein the deviation element is a deviation lens, and the deflection element is disposed at the focal point image of the deviation lens.

However, Solgaard discloses light beams focused onto a deviation element [grating #42], which focal spot is then the object for the deflection element [MEMS #18a-c].

This would appear to meet applicant's limitations as stated. Other arrangements with varying focal points as objects would be obvious to one skilled in the art of optical element design.

2.4 **Claim 29-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over US-6477291 to Ramadas in view of US-6097859 to Solgaard in view of US-6567574 to Ma in view of US-7236660 to Ducellier.**

**Regarding claims 29-34**, Ramadas does not specifically disclose:

Claim 29 (New): The optical switch as claimed in claim 25, wherein each of the at least one selection element is combined into one or more selection modules.

Claim 30 (New): The optical switch as claimed in claim 29, wherein each selection module includes N selection elements connected in parallel, the deviation elements and the deflection elements of the N selection elements being arranged as small rods of N elements.

Claim 31 (New): The optical switch as claimed in claim 29, wherein the connection means is located between two selection modules.

Claim 32 (New): The optical switch as claimed in claim 29, wherein the connection means is located after a selection module.

Claim 33 (New): The optical switch as claimed in claim 25, wherein the connection means includes at least one optical connection in free or guided space.

Claim 34 (New): The optical switch as claimed in claim 33, wherein the optical connection in free or guided space comprises at least one small rod of lenses.

Ma discloses a modular three dimensional optical switch with at least two selection modules. [Abstract, Fig. 1]

Further, Ma discloses that free space systems are advantageous designs. [Col. 1, lines, 58-67]

Ducellier discloses that rod lens can be used. [Col. 12, lines 1-5]

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Since Ma, Ducellier and Ramadas are from the same field of endeavor, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the modular approach of Ma and to the system of Ramadas as a means to provide a scalable economic system.

Further, choosing lens types such as rod, cylindrical, ball etc, would have been an obvious step in the design process for one of ordinary skill in the art.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Guy G. Anderson whose telephone number is 571.272.8045. The examiner can normally be reached on Tuesday-Saturday 1400-2200.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on 571.272.2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Guy G Anderson/  
Patent Examiner, Art Unit 2883

/Frank G Font/  
Supervisory Patent Examiner, Art Unit 2883

October 11, 2009